

# CLAIMS

What Is Claimed Is:

1. A method for forming a micro tip for a micro probe utilized in testing semiconductor integrated circuit devices, said method comprising the steps of:

depositing a thick oxide layer upon a substrate; and

defining a micro tip for a microprobe from said thick oxide layer upon said substrate through a plurality of subsequent semiconductor manufacturing operations performed upon said substrate and layers thereof, wherein a plurality of said micro tips are mass produceable and can be efficiently utilized in association with increasingly smaller sizes of semiconductor integrated circuit devices.

2. The method of claim 1 further comprising the step of:

adapting said micro tip of said microprobe for use with a micromachine.

3. The method of claim 1 further comprising the step of:

connecting said micro tip of said microprobe to a micromachine.

4. The method of claim 1 further comprising the step of:  
defining said micro tip of said microprobe utilizing a plurality of micromachine manufacturing operations.
5. The method of claim 1 further comprising the step of:  
performing a first lithography operation upon said substrate and layers thereof following a deposition of said thick oxide layer upon said substrate .
6. The method of claim 5 further comprising the step of:  
performing a first metal sputter operation upon said substrate, following said first lithography operation performed upon said substrate and said layers thereof.
7. The method of claim 6 further comprising the step of:  
performing a chemical mechanical polishing operation upon said substrate and said layers thereof following said first metal sputter operation performed upon said substrate.
8. The method of claim 7 further comprising the step of:  
performing a second metal sputter operation upon said substrate, following said chemical mechanical polishing operation performed upon said substrate and said layers thereof.

67,200-629  
2001-0616

9. The method of claim 8 further comprising the step of:

performing a second lithographic operation upon said substrate and said layers thereof following said second metal sputter operation performed upon said substrate, in order to define a shape of said micro tip.

10. The method of claim 1 further comprising the step of:

forming said micro tip for said micro probe on a substrate, wherein said micro tip is formed between a conductive metal layer and said substrate.

11. The method of claim 10 wherein said conductive metal layer comprises an aluminum layer.

12. The method of claim 1 wherein said substrate comprise a silicon substrate.

13. An apparatus for a micro probe utilized in testing semiconductor integrated circuit devices, said apparatus comprising:

a micro tip for said micro probe, wherein said micro probe is formed from a thick oxide layer deposited upon a substrate; and

wherein said micro tip is defined from said thick oxide layer upon said substrate through a plurality of subsequent semiconductor

20250324-011702

67,200-629  
2001-0616

manufacturing operations performed upon said substrate and layers thereof, such that a plurality of said tips are mass produceable and can be efficiently utilized in association with increasingly smaller sizes of semiconductor integrated circuit devices.

14. The apparatus of claim 13 wherein said micro tip of said microprobe is adapted for use with a micromachine.

15. The apparatus of claim 13 wherein said micro tip of said microprobe is connected to a micromachine.

16. The apparatus of claim 13 wherein said micro tip of said microprobe is definable utilizing a plurality of micromachine manufacturing operations.

17. The apparatus of claim 13 wherein said substrate and said layers thereof are subject to a first lithography operation following a deposition of said thick oxide layer upon said substrate.

18. The apparatus of claim 17 wherein said substrate and said layers thereof are subject to a first metal sputter operation, following a performance of said first lithography operation upon said substrate and said layers thereof.

202504011202

67,200-629  
2001-0616

19. The apparatus of claim 18 wherein said substrate and said layers thereof are subject to a chemical mechanical polishing following a performance of said first metal sputter operation upon said substrate and said layers thereof.

20. The apparatus of claim 19 wherein said substrate and said layers thereof are subject to a second metal sputter operation following a performance of said chemical mechanical polishing operation upon said substrate and said layers thereof.

21. The apparatus of claim 20 wherein said substrate and said layers thereof are subject to a second lithographic following a performance of said second metal sputter operation upon said substrate and said layers thereof.

22. The apparatus of claim 13 wherein said micro tip is formed between a conductive metal layer and said substrate.

23. The apparatus of claim 22 wherein said conductive metal layer comprises an aluminum layer.

24. The apparatus of claim 13 wherein said substrate comprises a silicon substrate.

20250324-01102